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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/541,452	03/31/2000	Mark D Amundson	279.152US1	3682

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EXAMINER

OROPEZA, FRANCES P

ART UNIT	PAPER NUMBER
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3762

DATE MAILED: 04/15/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/541,452

Applicant(s)

AMUNDSON ET AL.

Examiner

Frances P. Oropeza

Art Unit

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/11/03 (Amendment).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,6,8-11,13-15,23-26 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,6,8-11,13-15,23-26 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

New Prior Art

1. Claim 15 was previously identified as containing allowable subject matter, however prior art has been identified that reads on the claimed invention, hence a new grounds of rejection is presented in the subsequent paragraphs. Based on the amendment of claim 15, this action is made final.

Claim Rejections - 35 USC § 112

2. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 13, "the first telemetry coil" and "the second telemetry coil" lack antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. Claims 2, 6, 8-11, 13, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brownlee et al. (US 4134408) in view of Silvian (US 6301504) and further in view of Renken (US 6009350).

Brownlee et al. disclose an external multi-loop large-diameter telemetry coil, the conductive wire of the telemetry coil wound in a substantially common plane, coupled by telemetry to a receiving coil of an implantable device. The external telemetry coil is housed in a bed or chair, read as a flexible housing for the coil made of known coated and insulating materials that conform to irregular surfaces of the body yet has shape retention. Bed sheets and a mattress pad are read to supply the padded cover disposed over the housing. The outer

dimension of the external telemetry coil is read to be a diameter in the range of fifteen (15) to forty-six (46) centimeters (approximately six to eighteen inches). (figures 3b and 3c; col. 2 @ 10-21; col. 4 @ 32-37; col. 5 @ 55-65).

Brownlee et al. disclose the claimed invention except for a magnetically permeable core surrounded by the telemetry coil (claims 15 and 6).

Silvian discloses a high-speed telemetry system with a transmit coil (22) and a receive coil (30) and teaches the use of a ferrite core (ferrite is known to be a powdered magnetic material consisting chiefly of ferric oxide) to support high transmission rates. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used the ferrite core in the Brownlee et al. system in order enable high transmission rates so data can be transferred without significant error while preserving the limited power resources of the implanted device (col. 1 @ 50-55; col. 6 @ 55-58; col. 9 @ 39-42).

Modified Brownlee et al. disclose the claimed invention except for the loops of the around the core being positioned to form a substantially constant gap between adjacent loops (claim 15).

Renken teaches optimizing telemetry communications using equally spaced telemetry loops/ coils with a substantially constant gap for the purpose of creating a sweet spot to increase the telemetry volume. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used equally spaced telemetry loops/ coils with a substantially constant gap in the modified Brownlee et al. system in order to create a large consistent telemetry field and enable optimum telemetry communications (col. 7 @ 10-23).

4. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Silvian (US 6301504) and further in view of Renken (US 6009350).

Weijand discloses a medical system having improved telemetry. A first (1) and second (2) telemetry coil concentrically planarly wound substantially in a common plane communicates with the implanted medical device antenna (30) using RF signals (figure 2; col. 2 @ 38-39; col. 4 @ 7-13). It is inherent this communication is inductive. The communication lead has a first and second end; the first end is connected to the telemetry coils and the second end is connected to the programmer (figure 1A; col. 2 @ 30-38). The first and second telemetry coils include one or more loops of a conductive wire (col. 3 @ 36-64). The one or more loops of the conductive wire are concentrically wound in a common plane (col. 3 @ 36-64; col. 4 @ 11-14).

Weijand discloses the claimed invention except for a magnetically permeable core surrounded by the telemetry coil.

Silvian discloses a high-speed telemetry system with a transmit coil (22) and a receive coil (30) and teaches the use of a ferrite core (ferrite is known to be a powered magnetic material consisting chiefly of ferric oxide) to support high transmission rates (col. 6 @ 55-58; col. 9 @ 39-42). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the medical system having improved telemetry as taught by Weijand, with the ferrite core as taught by Silvian to provide a coil configuration that will enable high transmission rates so data can be transferred without significant error while preserving the limited power resources of the implanted device (col. 1 @ 50-55).

Modified Weijand discloses the claimed invention except for the loops of the around the core being positioned to form a substantially constant gap between adjacent loops.

Renken teaches optimizing telemetry communications using equally spaced telemetry loops/ coils with a substantially constant gap for the purpose of creating a sweet spot to increase the telemetry volume. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used equally spaced telemetry loops/ coils with a substantially constant gap in the modified Weijand system in order to create a large consistent telemetry field and enable optimum telemetry communications (col. 7 @ 10-23).

The Applicant's arguments filed 3/11/03 have been fully considered, but they are not convincing. The Applicant asserts the office action did not provide a motivation to combine the Weijand and Silvian references. The Examiner disagrees. A motivation was provided to combine the references: "Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the medical system having improved telemetry as taught by Weijand, with the ferrite core as taught by Silvian to provide a coil configuration that will enable high transmission rates so data can be transferred without significant error while preserving the limited power resources of the implanted device (col. 1 @ 50-55)." This motivation to combine is deemed appropriate and stands.

5. Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Silvian (US 6301504) and further in view of Renken (US 6009350) and further in view of Kung (US 6400991). As discussed in paragraph 4 of this action, modified Weijand discloses the claimed invention except for the outer dimension of the first and second telemetry coils being a diameter in a range of fifteen (15) to forty-six (46) centimeters.

Kung discloses an electromagnetic field source with two primary coils and teaches that the size of the coil is dependent on how much current you want to induce in the implanted device coils. Hence, it would be obvious to provide external telemetry coils where the outer dimension of the first and second coils is a diameter in a range of fifteen (15) to forty-six (46) centimeters to enable communication at an appropriate current level with the implanted device. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified medical system having improved telemetry as taught by modified Weijand, with the outer dimension of the first and second telemetry coils being a diameter in a range of fifteen (15) to forty-six (46) centimeters as taught by Kung to enable effective and efficient communication of energy between the external device and the implanted device (col. 3 @ 13-36).

6. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Silvian (US 6301504) and further in view of Renken (US 6009350) and further in view of Zarinetchi et al (US 6389318). As discussed in paragraph 4 of this action, modified Weijand discloses the claimed invention except for providing a flexible, insulated housing for the external telemetry coil that will conform to an irregular surface to enable the device to mate with the patient's body.

Zarinetchi et al. disclose a transcutaneous energy transfer device and teach that it is known to provide a flexible insulated housing for the primary coil that will conform to an irregular surface. The padded cushions (712 and 750) are read to be disposed over the housing (col. 4 @ 59-65; col. 6 @ 56 – col. 7 @ 29; figures 7A & 7B). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the

modified medical system having improved telemetry as taught by modified Weijand, with the insulated housing for the external telemetry coil that conforms to an irregular surface as taught by Zarinetchi et al. to enable the device to mate with the patient's body so a comfortable and effective interface with the patient is provided (c 6, ll 57-61).

7. Claim 30 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Snell et al. (US 6424867).

Weijand discloses a medical system having improved telemetry. A first (1) and second (2) telemetry coil concentrically planarly wound substantially in a common plane communicates with the implanted medical device antenna (30) using RF signals (figure 2; col. 2 @ 38-39; col. 4 @ 7-13). It is inherent this communication is inductive. The communication lead has a first and second end; the first end is connected to the telemetry coils and the second end is connected to the programmer (figure 1A and col. 2 @ 30-38). The first and second telemetry coils include one or more loops of a conductive wire (col. 3 @ 36-64). The loops of the conductive wire are concentrically wound in a common plane (col. 3 @ 36-64; col. 4 @ 11-14).

Weijand discloses the claimed invention except for the second telemetry coil being arranged and operated at a different telemetry operational frequency than the first telemetry coil.

Snell et al. disclose a secured telemetry system for an implantable cardiac device and teach the use of two telemetry circuits, each circuit with a different telemetry operational frequency to enable communication between two different devices using radio frequency links (figure 1; col. 3 @ 40-47; col. 6 @ 30-36). Given the external device and the implanted device both contain transceivers to send and receive signals, application of the teaching of using different transmission frequencies with two different coils is a teaching obviously applicable to

an external device. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the medical system having improved telemetry as taught by Weijand, with telemetry coil with two different operating frequencies as taught by Snell et al. to enable simultaneous sending and receiving of communication signals and to enable simultaneous communication to different devices by the originating device, hence improving the communication capability between an implanted device and an external device (col. 3 @ 5-17).

The Applicant's arguments filed 3/11/03 have been fully considered, but they are not convincing.

The Applicant asserts the office action did not provide a motivation to combine the Weijand and Snell et al. references. The Examiner disagrees. A motivation was provided to combine the references: "Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the medical system having improved telemetry as taught by Weijand, with telemetry coil with two different operating frequencies as taught by Snell et al. to enable simultaneous sending and receiving of communication signals and to enable simultaneous communication to different devices by the originating device, hence improving the communication capability between an implanted device and an external device (col. 3 @ 5-17)." The motivation to combine comes from having two telemetry coils and providing the beneficial capability of using the coils to communicate at different frequencies.

In response to the Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so

long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The Examiner combined the references because it was known in the art at the time of the invention to use multiple telemetry coils and it was known to be valuable to communicate with a multiple frequencies over different coils as taught by Snell, hence the combination of Weijand and Snell et al. is deemed proper and stands.

In response to the Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Weijand teaches the two telemetry coils (col. 4 @ 7-16) and Snell et al. teach operating telemetry coils as different operational frequencies (col. 3 @ 47-50; col. 6 @ 30-36), hence the combination of Weijand and Snell et al. is deemed to teach the claimed invention.

Statutory Basis

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Conclusion

THIS ACTION IS MADE FINAL. The Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

Art Unit: 3762

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Fran Oropeza whose telephone number is (703) 605-4355. The Examiner can normally be reached on Monday – Thursday from 6 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Angela D. Sykes can be reached on (703) 308-5181. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 306-4520 for regular communication and (703) 306-4520 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

Frances P. Oropeza
Patent Examiner
Art Unit 3762

FPO
3/30/03

Angela D. Sykes

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